NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
Department for Environmental Protection
Division of Water

401 KAR 5:029. General provisions.

RELATES TO: KRS 146.200 to 146.360, 146.410 to 146.535, 146.550 to 146.570, 146.600 to 146.619, 146.990, 224.01-010, 224.01-400, 224.16-050, 224.16-070, 224.70-100 to 224.70-140, 224.71-100 to 224.71-145, 224.73-100 to 224.73-120, 40 C.F.R. Part 136

STATUTORY AUTHORITY: KRS 146.220, 146.241, 146.270, 146.410, 146.450, 146.460, 146.465, 224.10-100, 224.16-050, 224.16-060, 224.70-100, 224.70-110, 40 C.F.R. Part 131, 136, 33 U.S.C. 1311, 1312, 1313, 1314, 1316, 1341, 16 U.S.C. 1531 et seq.

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100 requires the Natural Resources and Environmental Protection Cabinet to develop and conduct a comprehensive program for the management of water resources and to provide for the prevention, abatement, and control of water pollution. This administrative regulation and 401 KAR 5:002, 5:026, 5:030, and 5:031 establish procedures to protect the surface waters of the Commonwealth, and thus protect water resources. This administrative regulation establishes: the Commonwealth's surface water antidegradation policy, provide for withdrawals of waters not meeting water quality standards, and address sample collection and analytical methodology, mixing zones, and variances for coal remining operations.

Section 1. Antidegradation Policy. (1) The purpose of 401 KAR 5:026 to 401 KAR 5:031 is to safeguard the surface waters of the Commonwealth for their designated uses, to prevent the creation of any new pollution of these waters, and to abate any existing pollution.

(2) Where the quality of surface waters exceeds that necessary to support propagation of fish, shellfish, wildlife and recreation in and on the water, that quality shall be maintained and protected unless the cabinet finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the cabinet's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. For point source discharges, water quality shall be maintained and protected in these waters according to the procedures specified in 401 KAR 5:030, Section 1(2)(b) or (3)(b). In allowing degradation or lower water quality, the cabinet shall assure water quality adequate to protect existing uses fully. Further, the cabinet shall assure that there shall be achieved the highest statutory and regulatory requirements for waste treatment by all new and existing point sources and that nonpoint sources of pollutants be controlled by application of all cost effective and reasonable best management practices.

(3) Water quality shall be maintained and protected in a water categorized as an outstanding national resource water according to the procedures specified in 401 KAR 5:030, Section 1(1)(b).

(4) Water quality shall be maintained and protected in those waters designated as outstanding state resource waters according to the procedures specified in 401 KAR 5:031, Section 8.

(5) If potential water quality impairment associated with a thermal discharge is involved, a successful demonstration conducted under Section 316 of the Clean Water Act, 33 U.S.C. 1326, shall

be in compliance with this section.

Section 2. Withdrawal of Contaminated Water. Surface waters may, on occasion, not meet the criteria established in 401 KAR 5:031. Withdrawal and subsequent discharge of these waters without alteration of the physical or chemical characteristics into the same or similar surface water shall not be considered a violation of water quality standards. The cabinet shall determine KPDES permit limitations in these situations based on the quality of the raw and receiving waters. The cabinet retains the right to require permit modification under the provisions of 401 KAR 5:035, 401 KAR 5:065, 401 KAR 5:070, 401 KAR 5:075, and 401 KAR 5:080.

Section 3. Sample Collection and Analytical Methodology. All methods of preservation and analysis used to determine conformity or nonconformity with water quality standards shall be governed by 40 C.F.R. Part 136, as amended, if applicable. Sample collection and other methods not found in the above reference may be used where appropriate if they:

(1) Meet commonly accepted quality assurance and quality control principles;

(2) Are within the accuracy required for determining conformity or nonconformity with water quality standards; and

(3) Receive prior written approval by the cabinet.

Section 4. Mixing Zones. The following requirements shall apply to a mixing zone:

(1) The cabinet may assign definable geometric limits for mixing zones for a discharge or a pollutant or pollutants within a discharge. Applicable limits shall include the linear distances from the point of discharge, surface area involvement, volume of receiving water, and shall take into account other nearby mixing zones. Dilution provided by assigned mixing zones shall not be allowed until applicable limits are assigned by the cabinet in accordance with this section.

(2) Concentrations of toxic substances that exceed the acute criteria for protection of aquatic life in 401 KAR 5:031 shall not exist within an assigned mixing zone or in the discharge itself unless a zone of initial dilution is assigned. A zone of initial dilution may be assigned pursuant to subsection (3) of this section. Chronic criteria for the protection of aquatic life and criteria for the protection of human health from the consumption of fish tissue shall be met at the edge of the assigned mixing zone.

(3) The following requirements shall apply to a zone of initial dilution:

(a) The cabinet shall require an applicant to provide a technical evaluation for a zone of initial dilution;

(b) Concentrations of toxic substances shall not exceed the acute criteria for the protection of aquatic life at the edge of the assigned zone of initial dilution, except, numeric acute criteria may be exceeded within the zone if the frequency and duration of exposure of aquatic organisms are not sufficient to cause acute toxicity; and

(c) Unless assigned on or before the effective date of this administrative regulation, a zone of initial dilution for a pollutant shall not be allowed in an exceptional water.

(4) Unless assigned on or before the effective date of this administrative regulation, a zone of initial dilution for a pollutant shall be available only to a submerged high-rate multiport outfall structure and shall be limited in size to the most restrictive of the following:

(a) The acute criteria shall be met within ten (10) percent of the distance from the edge of the outfall structure to the edge of the regulatory mixing zone in a spatial direction;

(b) The acute criteria shall be met within a distance of fifty (50) times the square root of the cross-sectional area of a discharge port, in a spatial direction; or

(c) The acute criteria shall be met in a horizontal direction within a distance of five (5) times the natural water depth that prevails under mixing zone design conditions, and exists before the installation of a discharge outlet.

(5) The location of a mixing zone shall not: (a) interfere with fish spawning or nursery areas, fish migration routes, public water supply intakes, or bathing areas;

(b) preclude the free passage of fish or other aquatic life; and

(c) jeopardize the continued existence of any endangered or threatened aquatic species listed under Section 4 of the Federal Endangered Species Act, 16 U.S.C. 1531 et seq., or result in the destruction or adverse modification of their critical habitat.

(6) Unless assigned on or before the effective date of this administrative regulation, an assigned mixing zone, from the point of discharge in a spatial direction, shall not exceed one-third (1/3) of the width of the receiving stream or one-half (1/2) of the cross-sectional area.

(7) In a lake or a reservoir, unless assigned on or before the effective date of this administrative regulation, an assigned mixing zone, from the point of discharge in any spatial direction, shall not exceed one-tenth (1/10) of the width of the lake, or reservoir at the discharge point.

(8) An assigned mixing zone shall be limited to an area or volume which will not adversely affect the designated uses of the receiving water, and shall not be so large as to adversely affect an established community of aquatic organisms.

(9) For thermal discharges, a successful demonstration conducted under Section 316(a) of the Clean Water Act shall constitute compliance with this section.

(10) Unless assigned by the cabinet on or before the effective date of this administrative regulation, there shall not be mixing zones for bioaccumulative chemicals of concern. Any mixing zone that was assigned by the cabinet for a bioaccumulative chemical of concern shall expire no later than ten (10) years from the effective date of this administrative regulation. A bioaccumulative chemical of concern is one that accumulates in one or more aquatic organisms by a human health bioaccumulation factor of greater than one thousand (1000). For the purposes of this administrative regulation, bioacumulative chemicals of concern shall consist of the following:

(a) alpha-Hexachlorocyclohexane;
(b) beta-Hexachlorocyclohexane;
(c) Chlordane;
(d) DDD;
(e) DDE;
(f) DDT;
(g) delta-Hexachlorocyclohexane;
(h) Dieldrin;
(i) Hexachlorobenzene;
(j) Hexachlorobutadiene;
(k) Hexachlorocyclohexane;
(l) Lindane;
(m) Mercury;
(n) Mirex;
(o) Octachlorostyrene;
(p) PCBs;
(q) Pentachlorobenzene;
(r) Photomirex;
(s) Toxaphene;

(t) 1,2,3,4-Tetrachlorobenzene;
(u) 1,2,4,5-Tetrachlorobenzene; and
(v) 2,3,7,8-TCDD (Dioxin)

Section 5. Water Quality-based Variance for Coal Remining Operations. (1) Applicability. An applicant for a Kentucky pollutant discharge elimination system (KPDES) permit to discharge pollutants from or affected by a coal remining operation may request a variance from the water quality criteria for pH, iron and manganese set forth in 401 KAR 5:031.

(2) Application requirements.

(a) The applicant shall comply with all KPDES permit application requirements, as set forth in 401 KAR 5:060.

(b) The applicant shall submit documentation from the Department for Surface Mining Reclamation and Enforcement (DSMRE) certifying that the proposed coal remining operation will be located on a remined area.

(c) The applicant shall:

1. Describe the hydrologic balance for the proposed coal remining operation, including:

a. Results of a detailed water quality and quantity monitoring program, including seasonal variations, variations in response to precipitation events, and modeled baseline pollution loads using the monitoring program; and

b. Monitoring for pH, alkalinity, acidity, total iron, total manganese, sulfates, total suspended solids, and any other water quality parameters requested by the cabinet;

2. Submit the application for a permit from DSMRE;

3. Submit, if not submitted in the application for a permit from DSMRE:

a. Plans, cross-sections, and schematic drawings describing the techniques for reducing the discharge of acid-forming materials, iron and manganese;

b. A description and an explanation of the range of abatement levels that probably can be achieved, costs, and each step proposed to reduce the discharge of acid-forming materials, iron and manganese;

c. A description of the spoil handling practices necessary to reduce the discharge of acid-forming materials, iron and manganese; and

d. A detailed topographic map of the proposed coal remining operation, including the locations of the preexisting and proposed discharges; and

4. Continue the water quality and quantity monitoring program described in subparagraph 1 of this paragraph, and submit the results to the cabinet on a periodic basis until the cabinet makes a final permit decision. The cabinet shall evaluate the KPDES monitoring program and the DSMRE monitoring program for each applicant to avoid duplication and inconsistencies.

(d) An applicant with an existing surface coal mining operation seeking a permit revision from DSMRE pursuant to 405 KAR 8:010, Section 20 shall also demonstrate to the satisfaction of the cabinet that:

1. The applicant discovered discharges within the proposed coal remining area after the applicant's DSMRE permit was issued; and

2. The applicant has not caused or contributed to the discharges.

(3) Treatment requirements. If the cabinet issues a KPDES permit to discharge pollutants from or affected by a coal remining operation containing the variance described in subsection (1) of this section, the water quality-based effluent limitations for pH, iron and manganese shall be established on a case-by- case basis. Compliance with those effluent limitations constitutes compliance with those water

quality criteria for pH, iron and manganese set forth in 401 KAR 5:031.

(4) Prohibitions. In addition to the prohibitions contained in 401 KAR 5:055, the following prohibitions apply to this section:

(a) A KPDES permit containing the water quality-based variance of subsection (1) of this section shall not be issued unless the coal remining operation has applied for a permit from the Department for Surface Mining Reclamation and Enforcement, as set forth in 405 KAR Chapters 7 through 24, inclusive. The effective date of the KPDES permit shall not be sooner than the effective date of the permit issued by the Department for Surface Mining Reclamation and Enforcement.

(b) A KPDES permit containing the water quality-based variance of subsection (1) of this section shall not be issued for a surface coal mining operation which is not a coal remining operation located on a remined area.

(c) A KPDES permit containing the water quality-based variance of subsection (1) of this section shall not be issued which would allow the discharges of acid-forming materials, iron or manganese to exceed the levels being discharged from the remined area before the coal remining operation begins.

(d) A KPDES permit containing the water quality-based variance of subsection (1) of this section shall not be issued if the applicant fails to demonstrate to the satisfaction of the cabinet that the coal remining operation will result in the potential for improved water quality from the remining operation over that existing prior to the remining operation, and that the information provided in the application is adequate for the cabinet to make an informed final permit decision.

(e) A KPDES permit containing the water quality-based variance of subsection (1) of this section shall not be issued with effluent limitations less stringent than applicable technology-based effluent limitations established in 401 KAR 5:065 or 401 KAR 5:080.

(f) In addition to the prohibitions of paragraphs (a) through (e) of this subsection, a KPDES permit containing the water quality based variance of subsection (1) of this section shall not be issued for an existing surface coal mining operation unless:

1. The applicant receives a permit revision from DSMRE in accordance with 405 KAR 8:010, Section 20;

2. The applicant discovered discharges within the proposed coal remining area after the applicant's DSMRE permit was issued; and

3. The applicant has not caused or contributed to the discharges since August 3, 1977.

Section 6. Federal Regulation Adopted Without Change. (1) The following federal regulation governs the subject matter of this administrative regulation and is adopted without change: 40 C.F.R. Part 136 Guidelines Establishing Test Procedures for the Analysis of Pollutants, July 1, 2002 , U.S. Environmental Protection Agency, U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, D. C. 20402-9328.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Division of Water, 14 Reilly Road, Frankfort, Kentucky, Monday through Friday, 8 a.m. to 4:30 p.m.

401 KAR 5:029 Approved for promulgation:

9/10/03
Date

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